

Environmentally Sustainable Practices Among College Outdoor Programs and Their Association With Organizational Support Structures

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Abstract

Sustainability has gained increasing importance amongst both academic research and organizational practice over the past two decades (Davis & Challenger, 2014). The primary purpose of this study was to examine environmentally sustainable practices among college outdoor programs, while also examining how college level policy and infrastructural support may be associated with such practices. Of additional interest was to examine how environmental policies established at the programmatic level may differentially influence practice versus policies at the institutional level. College and university outdoor program directors were sampled in 2014 concerning their engagement in various pro-environment practices and perceptions of institutional support. The findings revealed the organizational culture and infrastructural support at responding institutions does make a positive difference in outdoor program sustainable practices, as does the level environmental policy is established at. Future research efforts should consider a more systemic and systematic approach to studying this topic given its increasing importance and visibility on college campuses.

KEYWORDS: environmental behavior; higher education; sustainable initiatives

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Sustainability in the business world has been defined as managing the triple bottom line where companies attempt to balance their financial, social, and environmental needs (Financial Times, n.d.). Wood and Peterson (2015) suggest sustainability speaks to “concerns about conservation, stewardship of the earth’s resources, and public policy aimed at ensuring clean air and water for generations to come” (p. 15). While other interpretations suggest terms such as *environmental* and *social justice*, the concept of sustainability, be it focused on the triple bottom line or individual components, has gained increasing importance in academic research and organizational practice over the past two decades (Davis & Challenger, 2014). Ranging from organizational social responsibility to sustainable business models, organizational environmental sustainability and sustainable work behavior initiatives have proliferated, with Wood and Peterson citing over 200,000 articles linked to the sustainability movement.

Crane (2000) suggested environmental sustainability is increasingly being viewed as an important activity in relation to enhancing image and even meeting regulatory requirements. Davis and Coan (2015) more recently suggested that to understand organizational change as it relates to sustainability, one must examine the organizational culture, leadership and change agents, and the level of employee engagement in pro-environmental behaviors. Davis and Challenger (2014) believe that desired environmental behaviors can be assisted through the presence of a formal environmental policy. Similarly, Norton, Zacher, and Ashkanasy (2014) suggest that environmentally friendly behaviors result when organizations introduce sustainability policies, with employees’ organizational perceptions (i.e., how they perceive their organization’s commitment to environmental sustainability) constituting the link between policy and behavior. The extent to which the organizational environment and its infrastructure are supportive of desired pro-environmental behaviors is also thought to be important in influencing pro-environmental behavior (Davis & Challenger, 2014). Davis and Challenger (2009) found employee engagement to be an important component in the success of individual and group-based pro-environment interventions. As such, organizational leadership and support are key determinants of the success of organizational environmental initiatives (e.g., Ramus & Steger, 2000) with the opportunities for employees to be able to engage in environmentally sustainable work behavior strongly influencing such action and ultimately the success or failure of behavior interventions (Davis & Coan, 2015).

In recent years, an increasing number of national bodies (e.g., Association for the Advancement of Sustainability in Higher Education [AASHE]) have developed tools to aid and assess college and university efforts concerning pro-environmental behaviors, with the general focus centered on sustainable initiatives linked to reducing one’s carbon footprint. AASHE (n.d.) is a nonprofit membership organization that empowers the higher education community to effect change and encourage sustainability innovation. Among other things, AASHE’s actions are designed to make sustainable practices the norm within higher education, while supporting all aspects of campus (e.g., teaching, operations, public engagement) in achieving sustainability goals (AASHE, n.d.). AASHE’s STARS program provides a self-reporting framework for colleges and universities to measure their sustainability performance (STARS, n.d.).

Other organizations working with institutes of higher education to aid with sustainability efforts include Second Nature. Since 1993, Second Nature (n.d.) has sought formal commitments and facilitated innovative solutions among leadership networks (e.g., presidents of colleges) in higher education. They oversee the largest voluntary carbon neutrality commitment in any sector in the United States with a broad goal to influence sustainability on and off college and university campuses.

In light of efforts of organizations such as AASHE and Second Nature, college campus recreation nongovernmental organizations such as NIRSA have created new initiatives to examine more fully how they can aid members in higher education to be more conscientious about their sustainability related decision making (NIRSA, n.d.). Recent NIRSA efforts include facilitating

online sustainability discussion groups for members, hosting a sustainability summit, and the creation of a commission for sustainable campus communities. As NIRSA (n.d.) describes on its website, "Sustainable enterprises such as recreational sports and higher education as a whole can only be attained through the combined efforts of all" (para. 2).

Similar to NIRSA, the Association of Outdoor Recreation and Education (AORE, 2015), a nonprofit professional development organization, has crafted environmental stewardship statements and developed "green" initiatives to educate and recognize members as it pertains to sustainable operational and programmatic practices. With much of their efforts directed at college and university extracurricular outdoor programs, the AORE complements many of the trends in higher education where individual colleges and universities are developing and directing resources toward being more sustainable.

Wood and Peterson (2015) found that many campuses around the United States have students sign sustainability pledges, learn about sustainability during campus orientation, and participate in sustainability training in residence halls. They also found that many academic courses and student clubs are infused with sustainability related topics. College and university strategic plans are incorporating sustainability and environmental stewardship language whether as part of their mission, a formal statement, or a strategic direction and initiative (e.g., Appalachian State University, n.d.). College and university sustainability councils and offices of sustainability are growing in number, as are other efforts aimed at creating administrative positions dedicated to fiscal sustainability, producing sustainable infrastructure, and providing assessment and monitoring of sustainability efforts on campus (AASHE, n.d.; Wood & Peterson, 2015).

As part of the sustainable initiatives momentum at institutes of higher education, college and university extracurricular outdoor programs are positioned to participate given their operational and programmatic practices. With many operational and programmatic practices occurring in ecologically sensitive land- and water-based settings, outdoor programs should consider their efforts at being sustainable. Little research has specifically examined outdoor programs from this standpoint, with no published studies to date. As such, the primary purpose of this study was to examine environmentally sustainable practices among college outdoor programs, while also examining how larger campus recreation department and college level policy and infrastructural support is associated with such practices. A secondary purpose was to examine how environmental policies established at the programmatic versus institutional level may differentially influence practice. In other words, does the presence of an outdoor program environmental policy influence sustainable practices more than a similar policy that is at institutional or department level?

Method

A 20-question electronic survey was developed and administered to full-time directors/coordinators of college and university outdoor programs via the AORE electronic mailing list during Fall 2013/Winter 2014. The survey was developed based on a review of literature as well as an examination of other instruments that assessed participation in college-wide sustainable environmental practices. The invitation to participate in the study was directed specifically at full-time directors and coordinators of college and university outdoor programs. AORE is a United States-based professional organization whose membership primarily consists of college and university outdoor program professional and student staff. The survey included questions measuring the presence of guiding environmental policy or position statements, as well as items measuring outdoor program participation in varied sustainable practices. Additional questions measured college administration and campus recreation supervisor general support, as well as additional funding for outdoor programs to support sustainable practices. Questions were primarily posed in yes/no and 5-point Likert-scale format. SPSS 22 was used for data analysis.

Results

One hundred thirty respondents completed the survey, with over 25 states and each region of the United States represented including Alaska. It is not known how many directors or coordinators of college and university outdoor programs received the electronic invitation to participate in the study given the nature of the sampling via an electronic mailing list. There were no duplicate responses based on an examination of IP addresses. Descriptive analysis was performed (e.g., the percentage of respondents who checked *yes* to a sustainable practice versus *no*) including crosstab and a series of independent samples *t* tests.

Using a *yes/no* format, respondents answered how often they engaged in nine sustainable practices (Table 1). Few practices were engaged in more than 50.0% of the time, with four of the nine practices participated in by less than 25.0% of the respondents.

Table 1
Outdoor Program Participation in Sustainable Practices

Practices by outdoor programs	Yes
Uses environmental protection standards to select and evaluate businesses we make purchases from.	22.1%
Uses labor/human rights standards to select and evaluate businesses we make purchases from.	22.1%
Has a shutdown policy/checklist that outlines all electronics to be powered off each night.	32.4%
Printer or copy paper contains 50% or greater post-consumer recycled content.	61.0%
Promotional materials display post-consumer recycled content percentage on the final product.	28.4%
Provides durable plates, silverware, and cups in the break room (no disposables).	66.7%
Requires trip participants to bring reusable plateware, silverware, and cupware.	80.1%
Has completed a carbon footprint calculation.	8.0%
Participate in carbon offset programs (e.g., tree planting) to negate/reduce carbon footprint.	15.8%

Note. Respondents had the option to check “I don’t know” for each of the nine practices. These percentages were not included in the Table, with 6.6% of respondents on average using the “I don’t know” option.

Crosstab analysis examining the association between having a university/college environmental policy or position statement (*Note:* 89.2% of respondents worked at an institution with one) and whether an outdoor program increased its participation in any of the nine practices described in Table 1 indicated greater participation for four of the practices (Table 2). This was particularly evident when the practice was something an outdoor program could have full control over (e.g., participate in carbon offset programs). On the other hand, participation in three other practices that outdoor programs could have complete control over slightly decreased (e.g., “Provides durable plates, silverware, and cups in the break room” dropped from 66.7% to 65.3%). Participation by outdoor programs in two practices linked to environmental or labor/human rights standards in selecting businesses from which to make purchases slightly decreased.

Crosstab analysis examining the association between the presence of an environmental policy or position statement at the campus recreation department level (*Note:* 49.0% of respon-

dents worked at an institution with one) and the frequency of outdoor program practice engagement described in Table 1 was performed. The presence of a policy or statement revealed greater participation by outdoor programs for eight of the nine practices when compared to Table 1 percentages and when the policy existed at the university/college level (Table 2). Increases in percentages were most notable for practices linked to having a shutdown policy tied to powering down electronic devices at night (48.5% vs. 32.4% and 29.5%), using environmental standards in selecting businesses from which to make purchases, and displaying post-consumer recycled content percentages on promotional materials.

Crosstab analysis examining when an outdoor program has its own guiding environmental policy or statement (*Note*: 60.0% of respondents worked at an institution with one) and subsequent engagement in the practices as previously described indicated greater participation for five of the practices when compared to Table 1 percentages and when a policy or statement existed at the university/college or campus recreation department level (Table 2). Increases in percentages were most notable for practices linked to using environmental standards in the selection of businesses from which to make purchases (35.0% vs. 22.1%, 20.6%, and 28.6%) and participating in carbon offset programs. None of the practices were engaged in less often when compared to the overall percentages in Table 1.

Crosstab analysis examining whether the presence of a university sustainability office or coordinator (*Note*: 73.0% of respondents worked at an institution with one) was associated with greater outdoor program participation in the practices found in Table 1 indicated slight increases for eight of the nine practices (Table 2). Similar results were found when compared to the percentages found if the university had a guiding environmental policy or statement, but the percentages were generally lower when compared to campus recreation departments or outdoor programs that had their own policy.

A series of independent samples *t* tests was conducted to compare if university/college administration support for outdoor program operational decision making differentiated participation in the nine practices described in Table 1. University/college administration support was measured using a 5-point Likert scale for which 1 = *never* and 5 = *all the time*. (*Note*: The overall mean score regardless of participation in the nine practices was 3.45 or between *half the time* and *most of the time*.) Of the nine practices, there were two statistically significant positive differences (Table 3). Overall, for seven of the nine practices, participation revealed a perception of greater support from college administration.

Additional independent samples *t* tests were conducted to compare whether support from the respondent's immediate supervisor (e.g., director of campus/university recreation) concerning outdoor program decision making differentiated participation in the nine practices. Immediate supervisor support was measured using a 5-point Likert scale for which 1 = *never* and 5 = *all the time*. The overall mean score was 3.87 or close to *most of the time*. While only one statistically significant positive difference was found (Table 4), six of the remaining eight practices revealed greater mean scores for outdoor programs that engage in the practices versus those that do not. In comparison to support at the college administration level (Table 3), perceived support was greater across all nine practices at the campus recreation supervisor level.

Using a Likert scale response format, respondents answered how often they engaged in 12 other environmental practices. Table 5 depicts the overall mean scores for the practices each evaluated on a 5-point Likert scale (1 = *never* to 5 = *all of the time*). Three practices had an average score greater than 4 or *most of the time*, and six of the remaining eight practices had an average score near 3 or *half the time*.

Table 2

Crosstab Between Different Levels of Environmental Policy/Position Statements or the Presence of a Sustainability Office/Coordinator and Outdoor Program Participation in Sustainable Practices

Practices by outdoor programs	College has a guiding environmental policy or position statement		Campus recreation department has a guiding environmental policy or position statement		Outdoor program has a guiding environmental policy or position statement		College has a sustainability office or coordinator	
	Yes	No	Yes	No	Yes	No	Yes	No
	%	%	%	%	%	%	%	%
Uses environmental protection standards to select and evaluate businesses we make purchases from.	20.6	79.3	28.6	71.4	35.0	65.0	23.2	76.7
Uses labor/human rights standards to select and evaluate businesses we make purchases from.	20.4	79.6	25.6	74.4	29.5	70.5	23.5	76.5
Has a shutdown policy/checklist that outlines all electronics to be powered off each night.	29.5	70.5	48.9	51.1	46.1	53.9	33.3	66.7
Printer or copy paper contains 50% or greater post-consumer recycled content.	63.4	36.6	66.7	33.3	66.1	33.9	66.2	33.8
Promotional materials display post-consumer recycled content percentage on the final product.	31.4	68.6	37.2	62.8	34.4	65.6	32.9	67.1
Provides durable plates, silverware, and cups in the break room (no disposables).	65.3	34.7	71.1	28.9	71.2	28.8	67.0	33.0
Requires trip participants to bring reusable plateware, silverware, and cupware.	79.6	10.4	80.8	19.2	88.1	11.9	78.0	22.0
Has completed a carbon footprint calculation.	10.0	90.0	11.9	88.1	10.0	90.0	10.8	89.2
Participate in carbon offset programs (e.g., tree planting) to negate/reduce our carbon footprint.	17.4	82.6	14.3	85.7	21.3	78.7	18.6	71.4

Note. Respondents had the option to check “I don’t know” for each of the practices. These numbers are not included in the percentages presented.

Table 3

T Test Examining Difference in Practice Participation Given University Support for Outdoor Program Decision Making

Practices by outdoor programs	College administration supports outdoor program operational decision making as it relates to pursuing environmentally sustainable practices				<i>p</i>
	<i>n</i>		<i>M</i>		
	Yes	No	Yes	No	
Uses environmental protection standards to select and evaluate businesses we make purchases from.	24	88	3.83	3.37	.095
Uses labor/human rights standards to select and evaluate businesses we make purchases from.	25	87	3.80	3.41	.155
Has a shutdown policy/checklist that outlines all electronics to be powered off each night.	39	77	3.41	3.49	.728
Printer or copy paper contains 50% or greater post-consumer recycled-content.	62	37	3.69	3.13	.024*
Promotional materials display post-consumer recycled content percentage on the final product.	32	76	3.84	3.30	.034*
Provides durable plates, silverware and cups in the break room (no disposables).	77	39	3.57	3.33	.314
Requires trip participants to bring reusable plateware, silverware, and cupware.	95	24	3.56	3.17	.157
Has completed a carbon footprint calculation.	9	101	3.67	3.42	.580
Participates in carbon offset programs (e.g., tree planting) to negate/reduce our carbon footprint.	18	94	3.39	3.48	.770

Note. *n* may not add to total number of respondents because of a third choice of “I don’t know” for each practice. Scores were calculated based on a 5-point Likert scale where 1 = *never* and 5 = *all the time*.

**p* < .05.

Table 4

T Test Examining Difference in Practice Participation Given Campus Recreation Supervisor Support for Outdoor Program Decision Making

Practices by outdoor programs	Immediate supervisor supports outdoor program operational decision making as it relates to pursuing environmentally sustainable practices				
	<i>n</i>		<i>M</i>		<i>p</i>
	Yes	No	Yes	No	
Uses environmental protection standards to select and evaluate businesses we make purchases from.	25	88	4.04	3.81	.373
Uses labor/human rights standards to select and evaluate businesses we make purchases from.	25	88	3.92	3.85	.797
Has a shutdown policy/checklist that outlines all electronics to be powered off each night.	40	77	4.00	3.80	.380
Printer or copy paper contains 50% or greater post-consumer recycled-content.	62	38	4.11	3.53	.010*
Promotional materials display post-consumer recycled content percentage on the final product.	32	77	4.16	3.73	.075
Provides durable plates, silverware and cups in the break room (no disposables).	78	39	3.95	3.82	.557
Requires trip participants to bring reusable plateware, silverware, and cupware.	96	24	3.93	3.71	.396
Has completed a carbon footprint calculation.	9	102	3.67	3.86	.627
Participates in carbon offset programs (e.g., tree planting) to negate/reduce our carbon footprint.	18	95	3.78	3.89	.690

Note. *n* may not add to total number of respondents because of a third choice of "I don't know" for each practice. Scores were calculated based on a 5-point Likert scale where 1 = *never* and 5 = *all the time*.

**p* < .05.

Table 5
Average Scores for Respondent Participation in 12 Environmental Practices

Practices by outdoor programs	M
Turn off lights when not using a room/area.	4.36
Turn off computers and monitors when not in use.	3.43
Unplug small appliances when not in use.	2.97
Power down peripheral electronic equipment (monitor, scanners, printers, lamps, etc.) each night.	3.49
Seasonally turn down heat before leaving work.	2.64
Seasonally turn up air conditioning before leaving work.	3.11
Sleep mode is enabled on all copiers and printers after 5 minutes or more of inactivity.	4.38
Hang gear and clothes out to dry whether outside or on a drying rack inside.	4.37
Use reusable bags when shopping for trips.	3.25
Provide information to trip/program participants concerning outdoor program sustainable practice efforts.	2.92
Seek to purchase gear/equipment manufactured within 500 miles of campus.	2.42
Buy from locally owned businesses for trip food and supplies.	3.04

Note. Score based on a 5-point Likert scale for which 1 = *never* and 5 = *all of the time*. Respondents had the option to skip an item if the practice was out of their control.

Independent samples *t* tests were then performed to compare respondents who worked at a college with an environmental policy or position statement (*Note:* 89.2% of respondents worked at an institution with one) versus those that did not and their level of participation across the 12 environmentally sustainable practices, delineated in Table 5. Respondents who worked at a college with an environmental policy or statement were more likely to engage in eight of the 12 practices versus those who worked at a college without a policy (Table 6).

Independent samples *t* tests were performed to compare whether the campus recreation department had an environmental policy or not and participation in the 12 practices (see Table 5). Respondents that have such a policy (49.0%) were more likely to engage in 11 of the 12 practices than those without a policy, although only one practice was found to be statistically significant in difference (Table 7). Additionally, outdoor programs that worked under a departmental environmental policy were also more likely to engage in a practice at least *half the time* ($M > 3.0$) versus those that did not work with such a policy. When compared to the overall averages for practice engagement described in Table 5, respondents who worked at colleges with a department level environmental policy participated slightly more often for nine of the 12 practices.

Next, independent samples *t* tests comparing whether the outdoor program had its own environmental policy or not and subsequent participation in the 12 practices indicated that respondents that have such a policy were more likely to engage in 11 of the 12 practices (Table 8). Three of the practices had mean scores greater than 4 or *most of the time* with three statistically significant ($p < .05$) positive mean differences found, suggesting that the presence of a program level environmental policy may positively influence practice engagement. Compared to the averages described in Table 5, respondents who worked under a program level environmental policy participated slightly more often for 10 of the 12 practices.

Finally, one fourth (24.3%) of all respondents, regardless of the presence of an environmental policy or sustainability office believed their college administration would provide a larger budget to make more environmentally sustainable purchases if they could justify such. Crosstab analysis measuring the association between the budget support question and having a guiding environmental policy indicated that respondents were much more likely to say they would receive administrative support for a larger budget (44.4%) if their campus recreation department had an environmental policy when compared to the overall response of 24.3% (Table 9). For outdoor programs that have an environmental policy, respondents said they would receive financial support to a greater degree in comparison to the overall response and their response linked to a college level policy or the presence of a sustainability office at their institution.

Table 6

T Tests Examining Presence of a University Guiding Environmental Policy/Statement and Outdoor Program Practice Participation

Practices by outdoor programs	College has a guiding environmental policy or position statement				
	<i>n</i>		<i>M</i>		<i>p</i>
	Yes	No	Yes	No	
Turn off lights when not using a room/area.	88	9	4.34	4.78	.086
Turn off computers and monitors when not in use.	88	11	3.40	3.45	.887
Unplug small appliances when not in use.	85	10	2.96	3.30	.451
Power down peripheral electronic equipment (monitor, scanners, printers, lamps, etc.) each night.	81	8	3.43	3.13	.513
Seasonally turn down heat before leaving work.	53	3	3.83	2.00	.035*
Seasonally turn up air conditioning before leaving work.	51	3	3.18	2.00	.266
Sleep mode is enabled on all copiers and printers after 5 minutes or more of inactivity.	77	7	4.42	4.29	.727
Hang gear and clothes out to dry whether outside or on a drying rack inside.	88	9	4.44	4.33	.726
Use reusable bags when shopping for trips.	88	11	3.17	3.64	.267
Provide information to trip/program participants concerning outdoor program sustainable practice efforts.	89	10	2.91	2.90	.983
Seek to purchase gear/equipment manufactured within 500 miles of campus.	87	9	2.45	1.89	.165
Buy from locally owned businesses for trip food and supplies.	85	9	2.99	2.67	.447

Note. *n* may not add to total number of respondents because of a third choice of "I don't know" for each practice. Scores were calculated based on a 5-point Likert scale where 1 = *never* and 5 = *all the time*.

**p* < .05.

Table 7

T Tests Examining Presence of Campus Recreation Department Environmental Policy/Statement and Outdoor Program Practice Participation

Practices by outdoor programs	Campus recreation department has a guiding environmental policy or position statement				
	<i>n</i>		<i>M</i>		<i>p</i>
	Yes	No	Yes	No	
Turn off lights when not using a room/area.	42	45	4.38	4.22	.326
Turn off computers and monitors when not in use.	43	48	3.77	3.12	.011*
Unplug small appliances when not in use.	41	45	3.15	2.84	.290
Power down peripheral electronic equipment (monitor, scanners, printers, lamps, etc.) each night.	39	41	3.64	3.21	.139
Seasonally turn down heat before leaving work.	26	22	3.96	3.23	.094
Seasonally turn up air conditioning before leaving work.	25	21	3.04	2.62	.423
Sleep mode is enabled on all copiers and printers after 5 minutes or more of inactivity.	33	39	4.48	4.20	.236
Hang gear and clothes out to dry whether outside or on a drying rack inside.	42	46	4.38	4.28	.723
Use reusable bags when shopping for trips.	43	48	3.02	3.33	.258
Provide information to trip/program participants concerning outdoor program sustainable practice efforts.	43	47	3.05	2.68	.227
Seek to purchase gear/equipment manufactured within 500 miles of campus.	42	46	2.64	2.22	.089
Buy from locally owned businesses for trip food and supplies.	40	46	3.20	2.87	.218

Note. *n* may not add to total number of respondents due to option to skip an item if the practice was out of respondent control. Scores were calculated based on a 5-point Likert scale where 1 = *never* and 5 = *all the time*.

**p* < .05

Table 8

T Tests Examining Presence of Outdoor Program Having an Environmental Policy/Statement and Outdoor Program Practice Participation

Practices by outdoor programs	Outdoor program has a guiding environmental policy or position statement				
	<i>n</i>		<i>M</i>		<i>p</i>
	Yes	No	Yes	No	
Turn off lights when not using a room/area.	59	41	4.46	4.17	.050*
Turn off computers and monitors when not in use.	60	43	3.72	3.05	.005*
Unplug small appliances when not in use.	58	41	3.10	2.83	.294

Table 8 (cont.)

Practices by outdoor programs	Outdoor program has a guiding environmental policy or position statement				
	<i>n</i>		<i>M</i>		<i>p</i>
	Yes	No	Yes	No	
Power down peripheral electronic equipment (monitor, scanners, printers, lamps, etc.) each night.	57	34	3.47	3.23	.393
Seasonally turn down heat before leaving work.	32	24	3.84	3.54	.453
Seasonally turn up air conditioning before leaving work.	32	22	3.00	3.18	.716
Sleep mode is enabled on all copiers and printers after 5 minutes or more of inactivity.	48	37	4.54	4.22	.114
Hang gear and clothes out to dry whether outside or on a drying rack inside.	60	42	4.40	4.33	.727
Use reusable bags when shopping for trips.	59	43	3.27	3.26	.953
Provide information to trip/program participants concerning outdoor program sustainable practice efforts.	61	43	3.25	2.44	.003*
Seek to purchase gear/equipment manufactured within 500 miles of campus.	58	41	2.50	2.22	.230
Buy from locally owned businesses for trip food and supplies.	56	42	3.05	2.90	.548

Note. *n* may not add to total number of respondents due to option to skip an item if the practice was out of respondent control. Scores were calculated based on a 5-point Likert scale where 1 = *never* and 5 = *all the time*.

* $p < .05$

Table 9

Crosstab for Presence of College Support Structures and Respondent Perception of Budget Support

College administration would provide a larger budget to make more environmentally sustainable purchases if I could justify such	College has a guiding environmental policy or position statement	Campus recreation department has a guiding environmental policy or position statement	Outdoor program has a guiding environmental policy or position statement	College has a sustainability office or coordinator
Yes	25.8%	44.4%	37.5%	26.0%
No	74.2%	55.6%	62.5%	74.0%

Note. Respondents had the option to check "I don't know" for the budget item. These numbers were not included in the table percentages.

Conclusions and Implications

The concept of sustainability, be it focused on the triple bottom line or individual components (e.g., environmental stewardship), has gained increasing importance in academic research and organizational practice over the past two decades (Davis & Challenger, 2014). In higher education, campuses are embracing the concept at all levels of operation with sustainability councils and dedicated sustainability offices being created, strategic plans that speak to sustainability, and numerous ways of incorporating sustainability into classrooms, student clubs, and residence life. To complement such efforts, numerous nongovernmental organizations (e.g., AASHE, NIRSA) provide direction and strategic tools to initiate change, while also helping formally assess campus efforts. The extent to which the organizational environment (e.g., presence of a guiding environmental policy) and change agents (e.g., sustainability office coordinators) are supportive of desired sustainable initiatives can greatly influence the success or failure of pro-environment interventions (Davis & Challenger, 2014; Norton et al., 2014). The findings from this study seem to support this statement, with respondents who work at colleges with a guiding environmental policy or position statement more likely to believe their respective institution would financially support their pursuit of environmentally sustainable purchases in comparison to the overall percentage of support. The positive response was more pronounced if the policy or statement was associated directly with the outdoor program or at the campus recreation department level, lending support to the idea that having a policy at or close to the operational level may influence practice to a greater degree. Similarly, the presence of a guiding environmental policy or statement at the campus recreation department or outdoor program level revealed that respondents were more likely to engage in environmentally sustainable practices in comparison to the overall percentage for each practice as well as when the policy or infrastructural support (sustainability office) was more removed from outdoor program operations (Tables 1 and 2).

Concerning college administration supporting outdoor program operational decision making and actual practice engagement, outdoor programs that did engage in the practices generally were more likely to believe they would receive administrative support versus those that did not (Table 3). In other words, the greater the perceived support from the college administration concerning operational decision making, the greater the likelihood an outdoor program participated in pro-environmental practices. Similar findings were determined when the question focused on perceived support from a supervisor at the campus recreation level (e.g., director of campus recreation), with those engaged in the practices believing they would receive greater support (Table 4). As such, practice and perceived support seemed linked, and when perception of support is at the immediate supervisor level, those that engaged in the practices believe they would be more supported in comparison to perceived support at the college administration level. This again pointed to how an additional degree of separation from operation may influence perception of support.

Additional analysis comparing whether the presence of an environmental policy or not and subsequent participation in 12 pro-environmental practices indicated that respondents that have such a policy were more likely to engage in the practices, particularly when the policy was at the campus recreation department or outdoor program level (Tables 7 and 8). When compared to the overall averages for practice engagement described in Table 5, respondents who worked under a program or campus recreation level environmental policy were also slightly more likely to engage in the practices, suggesting not only the value of an environmental policy but also its association with outdoor program administration.

While the findings are generally encouraging, there were many practices that were engaged in only about half of the time or not often. This is despite that a majority of respondents work with outdoor programs that operate under a guiding environmental policy or position statement linked to sustainability. Although the presence of an environmental policy or position

statement was positively associated with greater engagement in many of the practices, it seems guiding policies as well as the presence of campus sustainability offices may not be enough on their own. Davis and Coan (2015) suggest that beyond examining the organizational culture and support and individuals and groups already engaged in pro-environmental behaviors that researchers study other considerations such as the role of government regulation, financial and technological constraints, and the processes and procedures that among other things reward, permit, and ensure engagement, advocating a more “socio-technical systems thinking” approach (Davis, Challenger, Jayewardene, & Clegg, 2014). While not within the scope of this study, future research efforts should consider more broadly examining the systemic nature of college outdoor programs engagement in environmental initiatives (e.g., including environmental education in staff trainings and then in the field with participants), as it may reveal some of the reasons behind low practice engagement while also offering solutions.

Given a recognition that individual and group pro-environmental behavior is commonly linked to positive perceptions of a larger body (e.g., college outdoor program) supporting sustainable practices, a future initiative for an organization like the association studied (AORE) may be to pursue the creation of an accreditation or certification process aimed at college outdoor programs—a process that not only recognizes outdoor programs, their staff’s, and their participants’ commitment to the environment, but may also influence their respective colleges to take a more systemic approach in their commitment to sustainable initiatives, possibly one similar to what Davis et al. (2014) advocate.

Beyond the conclusions and implications drawn from this part of the study, additional analysis should consider how the size, type (private vs. public), and geographic location of the responding institutions might have factored into their responses. For instance, a small private liberal arts college located in an environmentally progressive area (e.g., Portland, Oregon) may be more likely to have greater institutional support and engage in sustainable practices more so than a midsize public institution located in the rural South. In addition, the community or county the institution is housed within may have an influence on support and practice as well. With the larger survey including questions tied to institution type, community support, and locale, further analysis could provide a clearer understanding of their influence on sustainable practice engagement and perceptions of institutional support.

The survey also included questions centered on food and equipment purchasing, recycling, energy, and transportation, as well as environmental and social justice. Additional analysis concerning university and college support (i.e., presence of guiding environmental policy; existence of a sustainability office or coordinator) and each of these areas should be performed to gain additional insight and a broader understanding of outdoor program engagement in sustainable operational practices.

Finally, this study has some limitations. The instrument designed for this study was not psychometrically tested and its use should be considered exploratory. Though the number of respondents was adequate for the analysis performed, the overall number is not large enough to generalize for the larger population of college and university outdoor programs in the United States. Indeed, the nature of the data collection prevents this, as no random sampling approach was used. It is also possible that respondents interpreted the presence of an environmental policy or statement differently than intended. Some respondents may have only thought of mission or vision statements, when the policies or position statements could have been couched within organizational goals and objectives or as part of a strategic plan. In addition, including a third choice of “I don’t know” for some of the questions may have influenced the results more profoundly than known, with some questions revealing a third of respondents using this choice.

In closing, the primary purpose of this study was to examine environmentally sustainable practices among college outdoor programs, while also examining how larger campus recreation department and college level policy and infrastructure may be associated with such practices. At

a minimum, it seems that the organizational culture and infrastructural support at responding institutions makes a difference in terms of engagement in sustainable practices, as does the level at which environmental policy is established.

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